

SIEMENS

Opdima®

SP

Installation

Installation and Start-Up

on MAMMOMAT Novation^{DR}

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Document revision level

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	Page
1 Prerequisites	1 - 1
General	1 - 1
Training of customer support engineers	1 - 2
Text emphasis	1 - 2
Documents required	1 - 3
Meters and appliances required	1 - 3
Tools required	1 - 3
Additional installation material required	1 - 3
Start-up, DHHS and X-ray decree area of application.	1 - 3
Notes on start-up	1 - 3
Checking and recording for the area of application of the X-ray decree (§16 Germany)	1 - 4
Checking and data recording in the USA	1 - 4
2 Protective measures for CCD camera	2 - 1
3 Protective measures	3 - 1
4 Preparatory work	4 - 1
Scope of delivery	4 - 1
Unpacking	4 - 2
General	4 - 2
Workstation	4 - 2
Biopsy controller, miscellaneous	4 - 2
Optional equipment and update kits	4 - 2
5 Installation	5 - 1
General	5 - 1
Sub-assemblies, overview	5 - 1
Removal of MAMMOMAT NovationDR stand covers	5 - 2
.	5 - 2
Installation of biopsy controller holders	5 - 3
Connection of cables	5 - 5
.	5 - 6
Cables to CCD camera	5 - 6
Installation of cable duct	5 - 8
Modification of cable outlet cover	5 - 8
Installation of workstation	5 - 9
Preparing the workstation table (option)	5 - 9
Connecting the workstation	5 - 12
Strain relieving the cables	5 - 17
Installation of input/output devices	5 - 18
Installation of monitor	5 - 19
Fine adjusting the monitor settings	5 - 19
Connecting the workstation to the network	5 - 21

	Page
Installation of Opdima printer (option)5 - 22
Functional test (workstation table)5 - 23
6 Final procedures	6 - 1
General	6 - 1
Starting up the MAMMOMAT	6 - 2
Starting up the workstation and login	6 - 2
Starting up the MO unit	6 - 2
Installation of software on OPDIMA WORKSTATION	6 - 2
Mounting of covers	6 - 3
Filling in of IVK list	6 - 3
Performing of DHHS maintenance	6 - 3
7 Changes to previous version	7 - 1

General

This installation instruction is valid for MAMMOMAT Novation^{DR} with serial numbers > 1100.

- The wall socket for the power supply for the computers of Opdima[®] must be connected to the same branch circuit as the MAMMOMAT Novation^{DR} power supply
- This Installation and Start-Up Instruction is valid for Opdima[®] systems:
 - with SUN workstation part No. 83 83 106/ Sun Blade 150 with ASW 3.1 and with serial No. \geq 10000

Training of customer support engineers

Due to the technology used in this equipment, setup, service and maintenance may only be carried out by a customer support engineer who has attended a training workshop or has participated in at least one installation.

Text emphasis



DANGER indicates when there is an immediate danger that leads to death or serious physical injury.



WARNING indicates a risk of danger that may lead to death or to serious physical injury.



CAUTION used with the safety alert symbol indicates a risk of danger that leads to slight or moderate physical injury and/or damage to property.



NOTICE used without the safety alert symbol indicates a risk of danger that if disregarded leads or may lead to a potential situation which may result in an undesirable result or state other than death, physical injury or damage to property.



NOTE contains information provided with special emphasis to facilitate proper use of the equipment or proper execution of a procedure, i.e. hints, tips.

Documents required

- Supplement to the Instructions for Use MAMMOMAT Novation^{DR} - Opdima[®] (included in the Opdima[®] delivery)
- MAMMOMAT 1000/3000/3000 Nova - Opdima[®] Service Instructions (included in the Opdima[®] delivery)
- MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima[®] DHHS Maintenance Instructions (included in the Opdima[®] delivery)
- MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima[®] Measurement Certificates (included in the Opdima[®] delivery)
- MAMMOMAT Novation^{DR} - Opdima[®] Planning Guide
- MAMMOMAT Novation^{DR} - Opdima[®] Installation and Start-Up
- MAMMOMAT Novation^{DR} - Opdima[®] Wiring Diagram
- MAMMOMAT 3000 Installation and Setting Instructions Update Kit for Stereotactic Biopsy Attachment (where applicable)

Meters and appliances required

- Protective ground wire tester (44 15 899 RV090)
- Service PC (e.g. Siemens-Nixdorf PCD 3NSX/20 or similar) with connecting cable, PC to generator (part No. 99 00 440 RE999)
- Stereo calibration phantom (included in the delivery) (part No. 64 30 701)
- AEC calibration plexiglass, four plates measuring 150 mm x 150 mm x 19 mm and one plate measuring 150 mm x 150 mm x 9,7 mm, part No. 65 61 232 and 65 61 224 respectively
- Resolution phantom with at least 10 line pairs per mm

Tools required

- Standard installation tools
- Electric drill with 5 mm drill

Additional installation material required

- Extension mains cord with at least three outlets, of protective earth type

Start-up, DHHS and X-ray decree area of application

Notes on start-up

Opdima[®] is adjusted, programmed and tested in the factory, leaving only the connection to the on-site mains voltage, the functional tests and customer dependent adjustments to be performed.

Checking and recording for the area of application of the X-ray decree (§16 Germany)

An X-ray unit can only be put into operation if an acceptance test has been performed according to §16 RoeV. It is recommended that the responsible Customer Service Engineer is present to assist the person responsible for this acceptance test.

Checking and data recording in the USA

Maintenance measurements must be made according to the instructions in MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima® DHHS Maintenance Instructions.

Sections

- Required labels
- Reproducibility
- Automatic exposure control (AEC)

The result must be recorded in the document MAMMOMAT 300/3000, MAMMOMAT 3000 Modular incl. Stereotactic Biopsy Attachment and Opdima® Measurement Certificates.

CAUTION

The CCD camera is very sensitive to mechanical shocks and temperature changes. In the camera shock and temperature sensors are integrated.

Risk of damaging the equipment.

The camera has to be handled with extreme care.
When disconnected from the biopsy controller, the camera shall always be stored in the attaché case delivered with the system.
Do not touch the pins in the contacts of the camera.

The camera shall be used within 10–30° C.

The camera shall be transported or stored within 0–40° C.

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It is very important that any intervention in the equipment shall start with disconnecting it from the power supply with the main circuit breaker. To prevent accidental triggering of high voltage and radiation, set the switch S2 (SS) on board D750 to OFF.

CAUTION

When switching off the workstation use the power off procedure described in the Supplement to the Instructions for Use MAMMOMAT Novation^{DR}- Opdima[®].

Switching off the workstation before the software has been closed down may cause damage to the files on the hard disc.

WARNING

If the system is only switched off at the control panel or with the circuit breaker CB S700, there is still voltage present within the generator. See the wiring diagram for MAMMOMAT Novation^{DR}.

Life-threatening electric shock hazard exists.

Disconnect mains cable and comply with the information on this page.

WARNING

After shut-down of the system, there may still be about 380 V DC present on the intermediate circuit of the MAMMOMAT generator.

Life-threatening electric shock hazard exists.

A bleader resistor is connected over the output DC capacitors.

The DC voltage will discharge below 60 Volt in 3 minutes.

The voltage level is indicated by LEDs H3 and H4.

CAUTION

Observe the currently valid guidelines for handling electronics endangered by electrostatic discharge.

Use ESD-equipment, ground prior to making contact and place the components on a conductive surface.

The boards contain electrostatic highly sensitive components requiring particular care in their handling.

Risk of damaging components.

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Scope of delivery

The following parts are always included in the delivery of your equipment:

- Technical Manual comprising information for installation, operation and service
- CCD camera with a fixed cable
- Biopsy controller with five cables and cable duct
- Stereo calibration phantom, 64 30 701 (see page 1-3)
- Workstation including:
 - power supply cable
 - network cable
 - KVM switch with cables
 - MO unit with one power supply cable and one data cable
 - Main unit including CD drive
- In some deliveries, the monitor, keyboard and mouse may be delivered. In such case the KVM switch is not needed.

If ordered, the following is delivered:

- Biopsy unit
- Compression plate for biopsy examination
- Printed circuit board D702
- MAMMOMAT software V2.2 or higher
- Isolation p.c. board D707 kit
- DICOM license key
- Workstation table
- Printer

Unpacking

General

NOTE

Follow the directional marks on the box during transport, storage and unpacking.

Workstation

The workstation is packed in a card board box which also contains technical documentation and CDs for application software and operating system¹.

Biopsy controller, miscellaneous

The biopsy controller is packed in a card board box together with cables, miscellaneous installation material.

CCD camera

CAUTION

The CCD camera is very sensitive to mechanical shocks and temperature changes. In the camera shock and temperature sensors are integrated.

Risk of damaging the equipment.

The camera has to be handled with extreme care.

When disconnected from the biopsy controller, the camera shall always be stored in the attaché case delivered with the system.

Do not touch the pins in the contacts of the camera.

The CCD camera is packed in an attaché case. Keep the case for future use.

Optional equipment and update kits

If optional equipment and/or update kits are ordered, these are packed in separate boxes.

1. Only needed if a software reinstallation is necessary (see MAMMOMAT 1000/3000 Nova - Opdima® Service Instructions). Store the documentation and software CDs in a proper place for future service use.

General

Before starting the installation, a backup of the installation parameters of the MAMMOMAT Novation^{DR} can be carried out. This may be omitted, if backup already available.

1. Connect a PC to the MAMMOMAT Novation^{DR} and start the service program.
2. Select *Main menu => Backup => Copy installation area to disk => All*.
This will store the installation parameters on the hard disk of the PC.
3. Select *Main menu => Backup => Copy installation area to floppy => All*.
This will store the installation parameters on the service diskette.
4. Switch off the MAMMOMAT.

Sub-assemblies, overview

The components shall be placed according to the figure below.

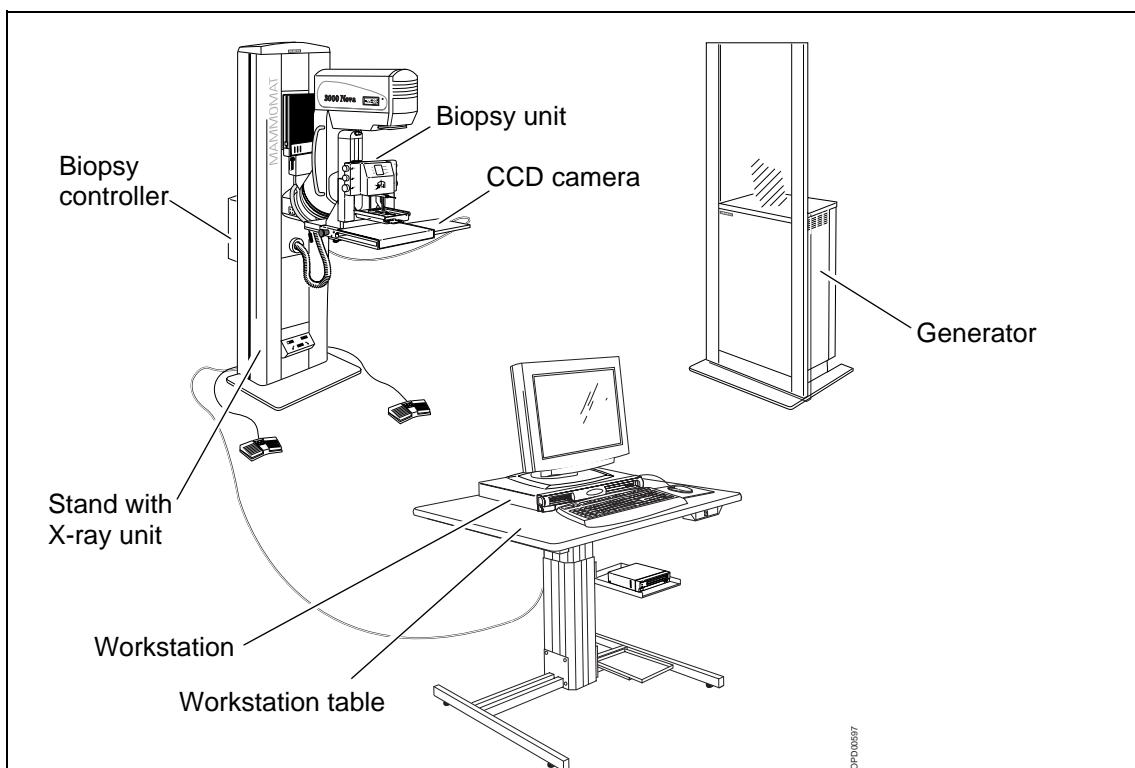


Fig. 1 MAMMOMAT 3000 Nova with digital biopsy and spot imaging system Opdima®

NOTE

The workstation shall be placed at least 1.5 m from the object table of the stand.

Removal of MAMMOMAT Novation^{DR} stand covers

WARNING

High voltage!

Life-threatening electric shock hazard exists.

Switch off the power to the system with the main circuit breaker.

The right/rear side cover should be removed.

The holes for fastening of the biopsy controller BC and of the cable tray below the BC have been drilled in the factory.

There are two cable trays of different lengths delivered, use the suitable one.

Installation of biopsy controller holders

The biopsy controller is attached to the rear cover of the stand. To install the holders proceed as follows:

1. Install the three holders (2/Fig. 2) by using the nuts (3/Fig. 2).
2. Install the two standoffs (4/Fig. 2) by using the screws (5/Fig. 2) and the washers (6/Fig. 2).

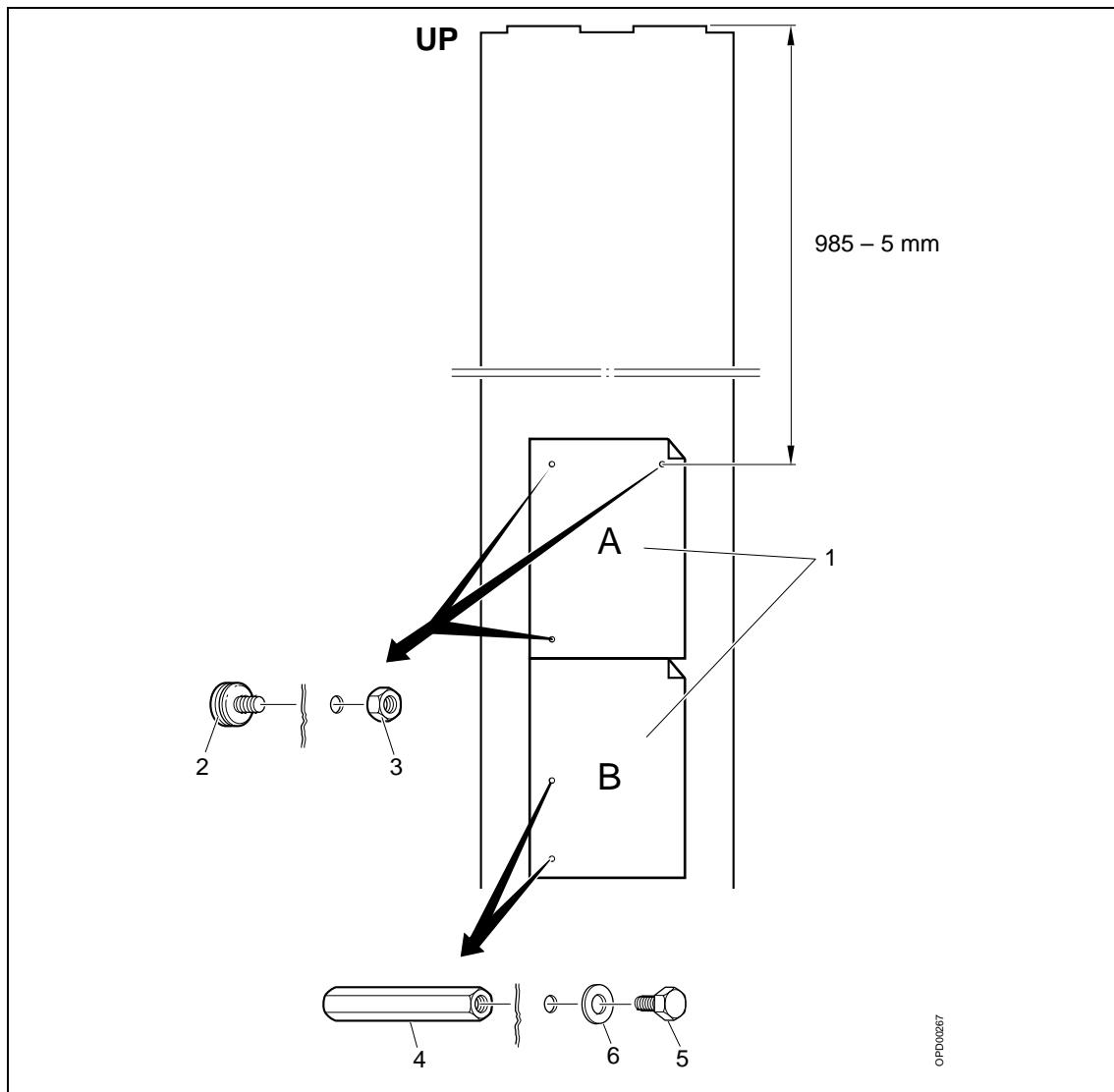


Fig. 2 Rear cover, from the back side

OPD00267

3. Install the rear cover (2/Fig. 3) on the stand and attach the biopsy controller (1/Fig. 3) to the holders. Switch on the power-on switch on the biopsy controller.

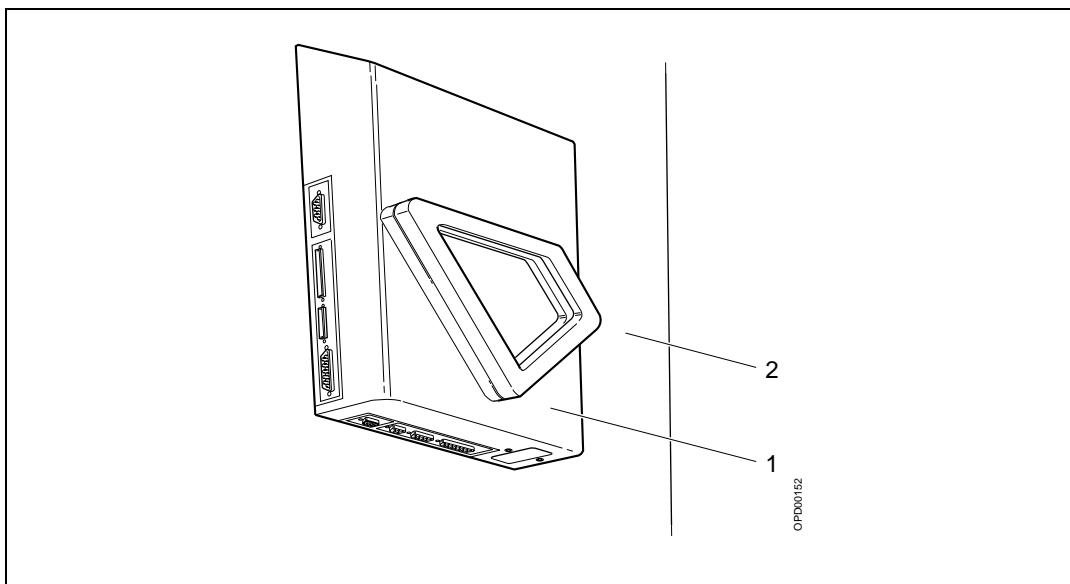


Fig. 3 Biopsy controller

Connection of cables

The biopsy controller is the central unit for the cable connections of OPDIMA. The cables are connected to the biopsy controller according to the figure 6 on page 2-6, see wiring diagram doc No: SPB7-230.051.09.03.02.

Perform the connection of cables according to data in the wiring diagram.

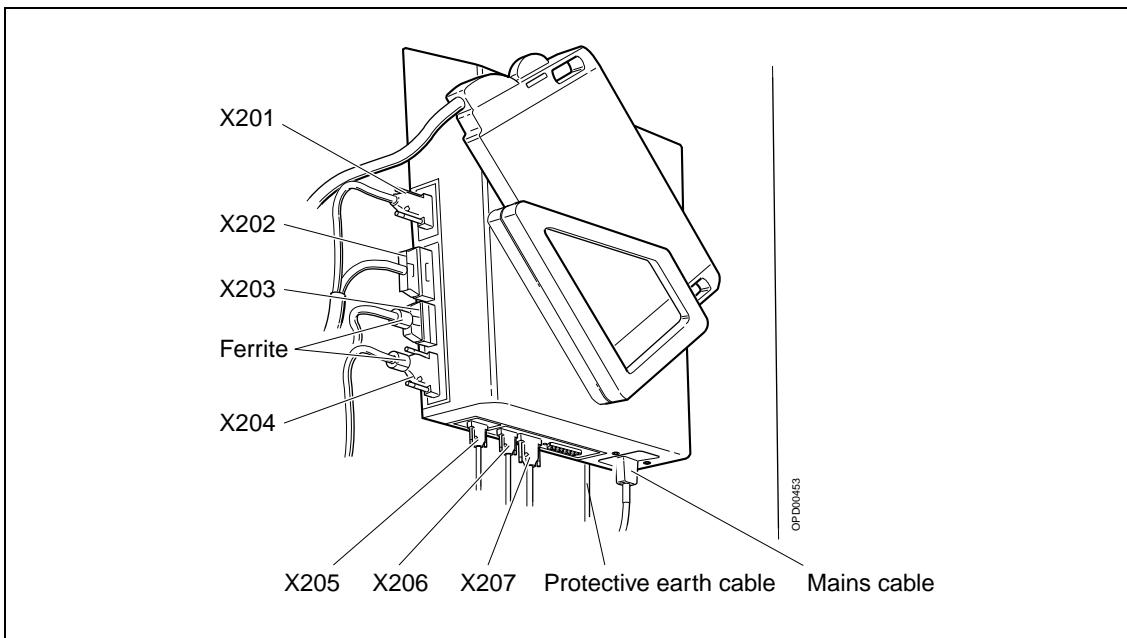


Fig. 4 Connection of cables to the biopsy controller

Cables to CCD camera

The CCD camera including cable with connectors marked X201 and X202 is connected to the biopsy controller.

1. Connect the cable to X201 and X202 on the biopsy controller, see Fig. 4.

CAUTION

Sensitive electronic equipment!

Risk of damaging the camera.

Do not touch the pins in the contacts of the CCD camera.

2. Remove the screws (1/Fig. 5) and remove the cover (2/Fig. 5) of the object table arm.

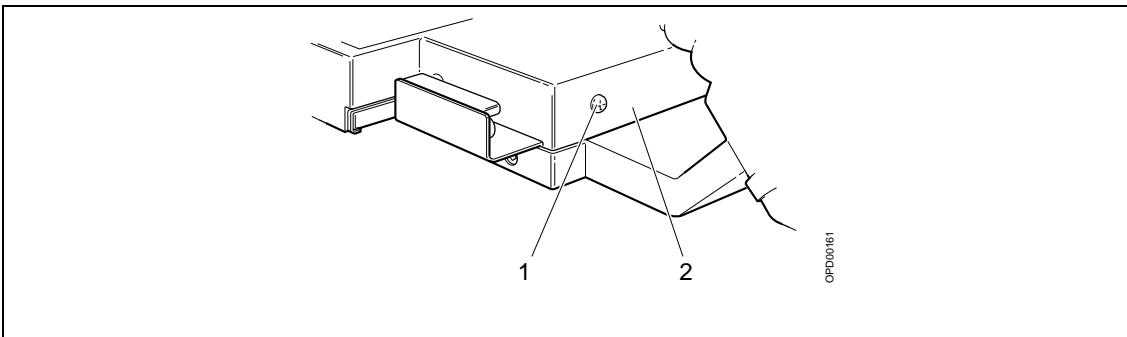


Fig. 5 Object table arm before installation

1. Install a new thread (1/Fig. 6).

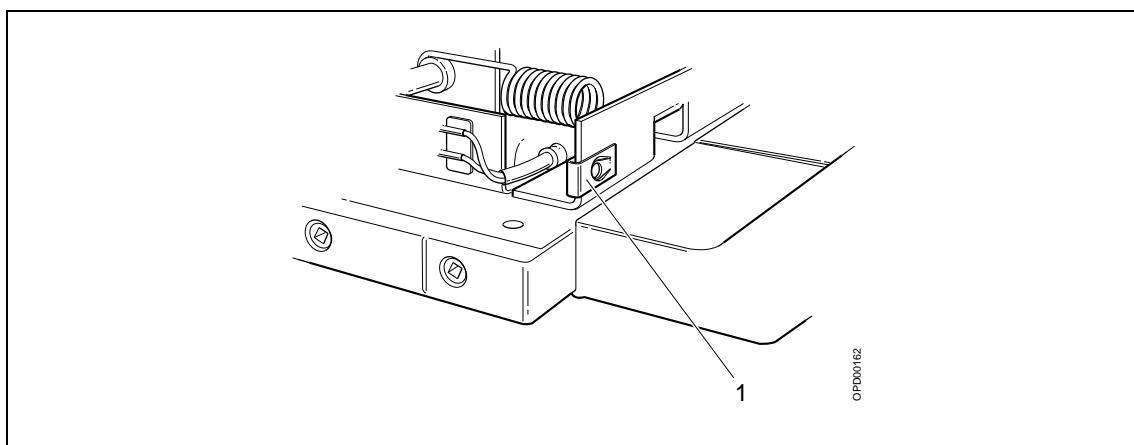


Fig. 6 Installation of thread

2. Install the holder (1/Fig. 7) with the pull relief device, using included Allen screws (2/Fig. 7).

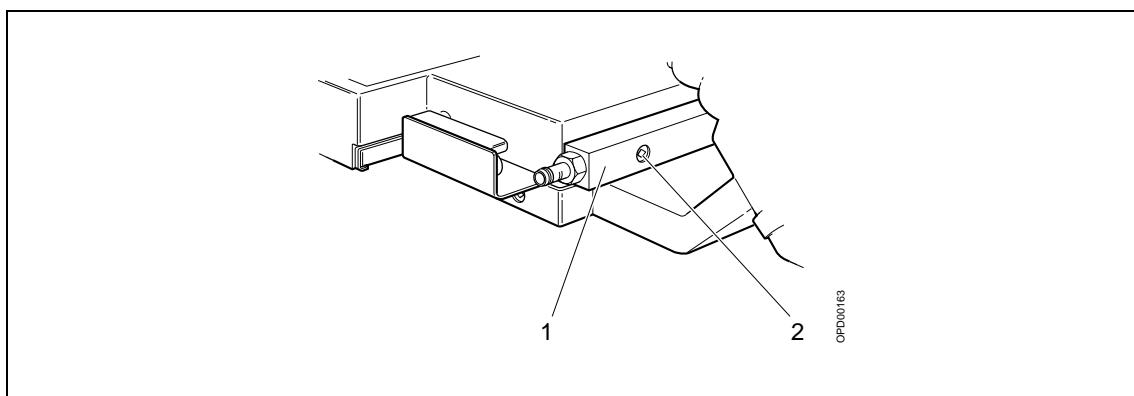


Fig. 7 Object table arm after installation

Installation of cable duct

Four cables are laid from the bottom of the biopsy controller in a cable duct to the cable outlet cover (3/Fig. 8). To install the cable duct on the rear side of the stand proceed as follows:

1. Attach the cable duct (2/Fig. 8) to the rear cover by removing the protective strips from the attached Velcro strips and place the duct flush with the biopsy controller (1/Fig. 8). Secure the cable duct to the two standoffs (5/Fig. 8) with the delivered screws and washers.

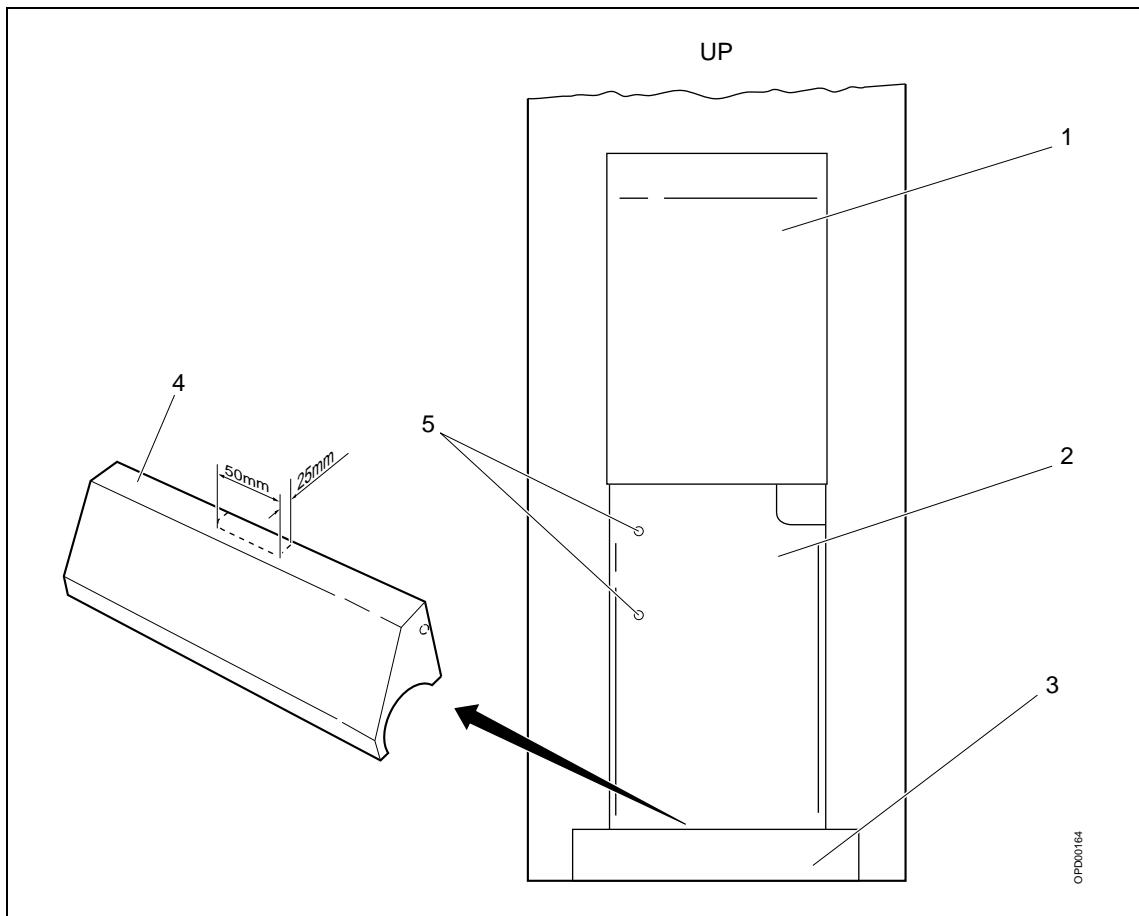


Fig. 8 Cable duct

Modification of cable outlet cover

To allow the cables to pass through the cable outlet cover, the cover has to be modified according to the following:

1. Cut an opening centrally on the cable outlet cover (4/Fig. 8). The opening should be approximately 50 x 25 mm.
2. Attach the supplied plastic strip around the opening of the cable outlet cover (4/Fig. 8).
3. Install the cable outlet cover (4/Fig. 8).
4. Mount the previously removed stand covers.

Installation of workstation

Preparing the workstation table (option)

The workstation table (option), a motorized vertically adjustable table, shall be used to put the workstation components to the Opdima® system on. The vertical adjustment device includes a transformer, which is not mounted on delivery.

CAUTION

The workstation table must not be overloaded.

Any additional equipment is added at your own risk and the maximum load of 80 kg must not be exceeded.

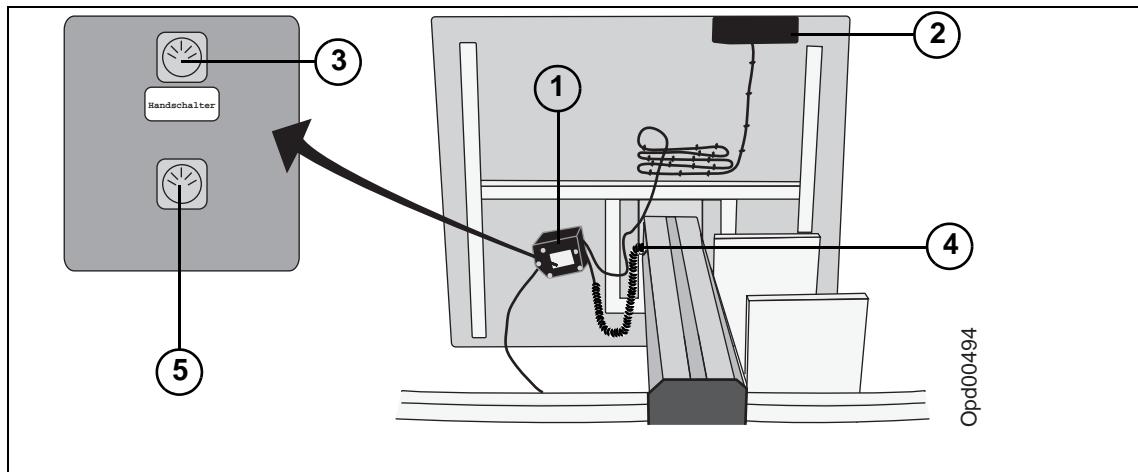


Fig. 9 Transformer

1. Remove the screws on the underside of the tabletop and use them when mounting the transformer (1/Fig. 9). Place the transformer so that the connectors are turned to the column.
2. Connect the cable from the control unit (2/Fig. 9) for the vertically adjustment to the connector marked "Handschatler" (3/Fig. 9).
3. Connect the cable from the motor (4/Fig. 9) for the vertically adjustment to the other connector (5/Fig. 9).

4. Place the workstation table outside the patient environment of safety reasons. Patient environment is determined by IEC 60601-1-1 as 1.5 m away from the patient.

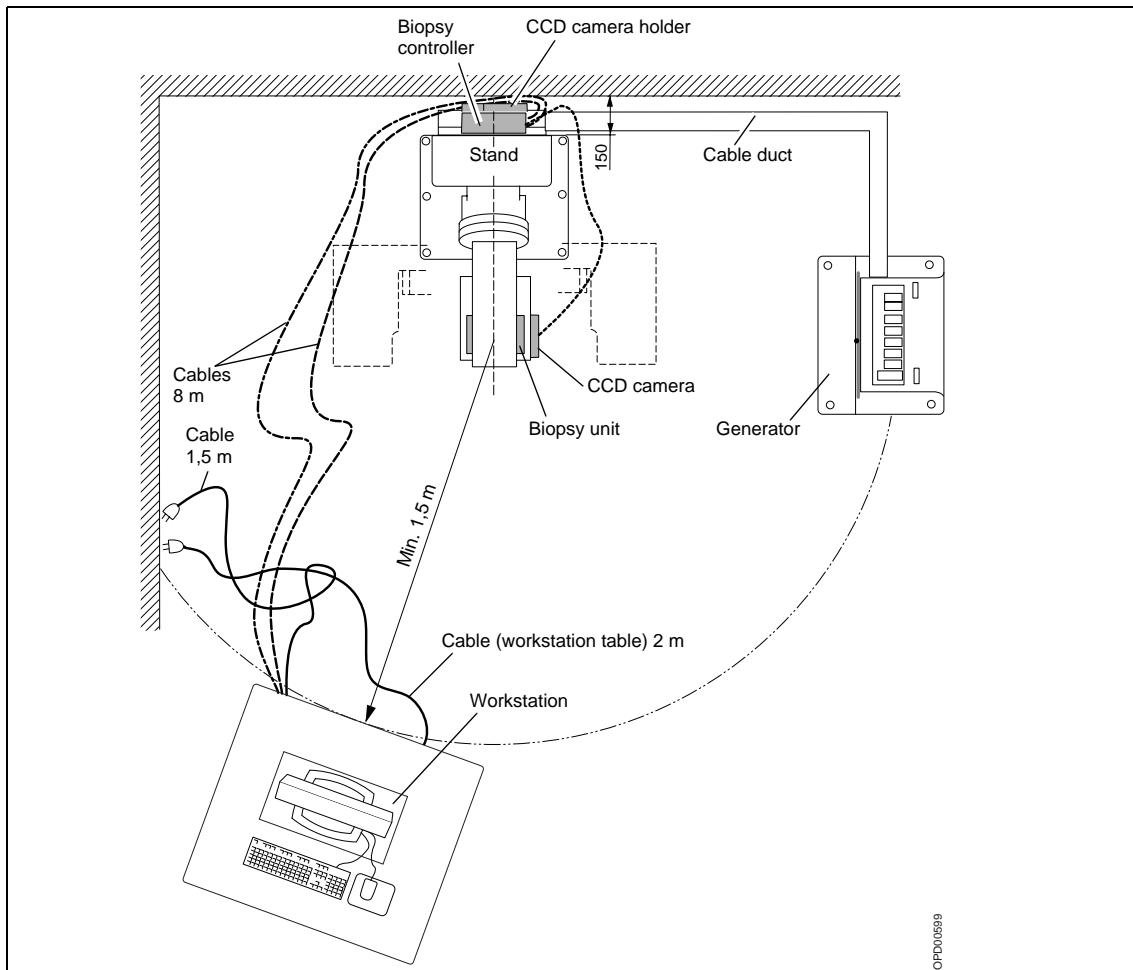


Fig. 10 System site overview

NOTE

There must be enough space around the workstation table so that it safely can be vertically adjusted.

5. If the workstation table stands on an uneven floor, it can be adjusted with the adjustable screws on the framework.

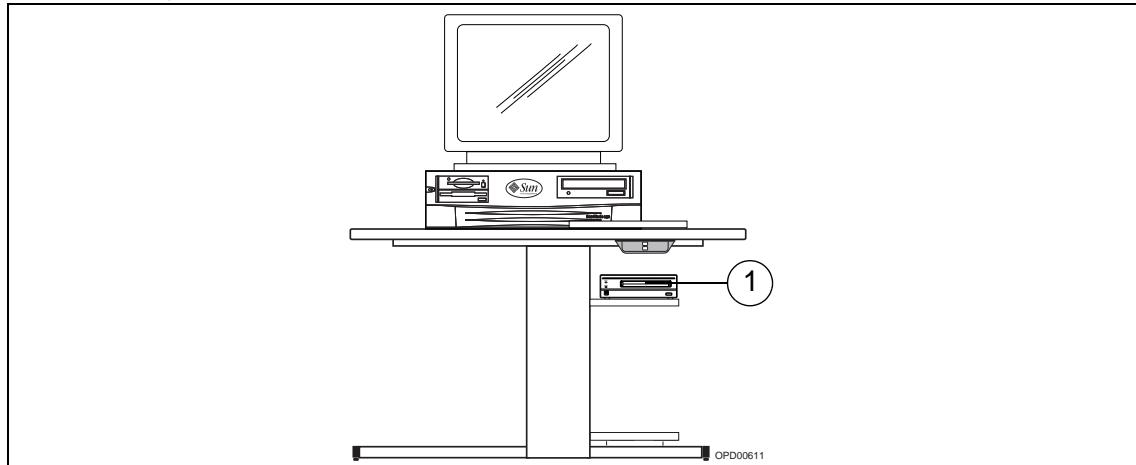


Fig. 11 MO Shelf

6. Place the workstation, the monitor, the keyboard and the mouse on the tabletop. Make sure that all the equipment is within the edges of the tabletop.
7. Let the cables from the workstation, the monitor, the keyboard and the mouse pass through the hole at the back of the tabletop.
8. Mount the MO unit shelf on the right below the tabletop (1/Fig. 11).
9. Place the MO unit to the right on the shelf (1/Fig. 11).

Connecting the workstation

1. Connect workstation cable marked X203 to the biopsy controller connector X203, see Fig. 12, and the other end (X101) of the cable to the workstation connector (2B/Fig. 26).

CAUTION

Connecting the cable to the wrong connector may cause severe damage to the equipment.

2. Attach ferrite on the cable on the biopsy controller side, see Fig. 12.

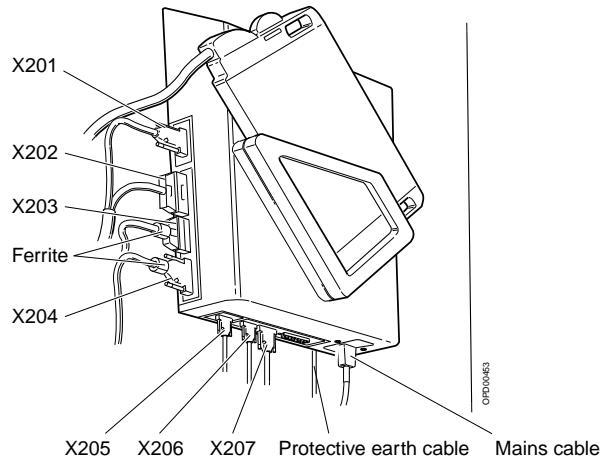


Fig. 12 Biopsy controller

3. Connect the workstation cable marked X204 to the biopsy controller connector X204 in Fig. 12 and the other end of the cable to the workstation connector A (8/Fig. 17) and B (2A/Fig. 17).
4. Attach ferrite on the cable on the biopsy controller side, see Fig. 12.
5. Mount the touch protection over the connectors X203 and X204.
 - Place the plastic plate (1/Fig. 13) behind the connectors X203 and X204.
 - Place the plastic cover (2/Fig. 13) on the other side of the connectors.
 - Fasten the plastic screws (3/Fig. 13).

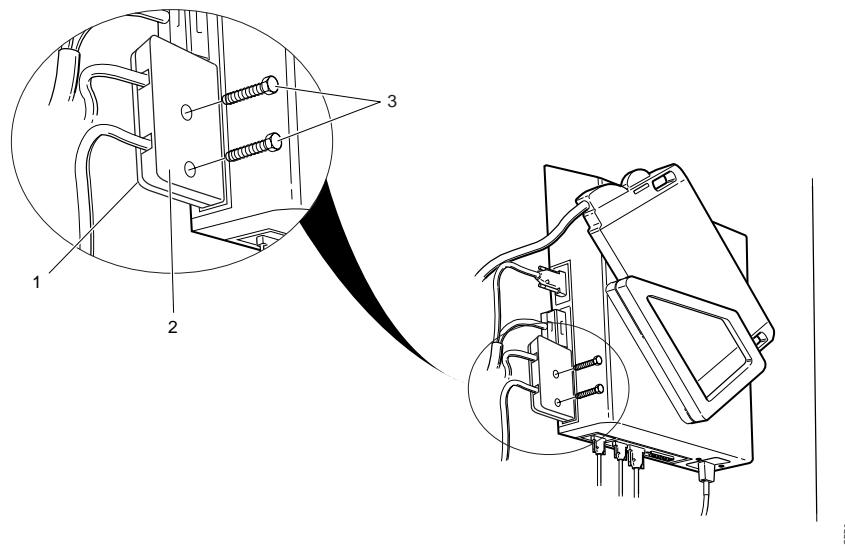


Fig. 13 Mounting the touch protection

6. Connect the MO unit SCSI cable to the workstation SCSI connector (2C/Fig. 17).
7. Connect the MO unit cable to one of the two connectors of the MO unit. Fit the terminator to the other connector of the MO unit.
For switch settings, SCSI ID and termination see Paragraph "Installing the MO unit" in Chapter "Removal and replacement of sub-assemblies" in Mammomat 1000/3000/3000 Nova - Opdima® Service Instructions.

CAUTION

Make sure that the SCSI cables are properly connected and fixed to the units and that the cable is not bent too much just behind the MO unit. Also, check that the MO unit is terminated correctly.

If disregarded, this might generate a lot of problems e.g. failure to write images to MO disk, corrupted MO disk or corrupted hard disk.

8. Connect the mouse to the keyboard.
9. Connect keyboard and mouse (3/Fig. 17).
10. Connect monitor cable to the workstation connector (6/Fig. 17).
11. Connect Ethernet cable (4/Fig. 17).
12. Mark the wall socket connected to the same branch circuit as the MAMMOMAT (Fig. 14) with label according to Fig. 15.

The power distribution to the system is shown in Fig. 14.

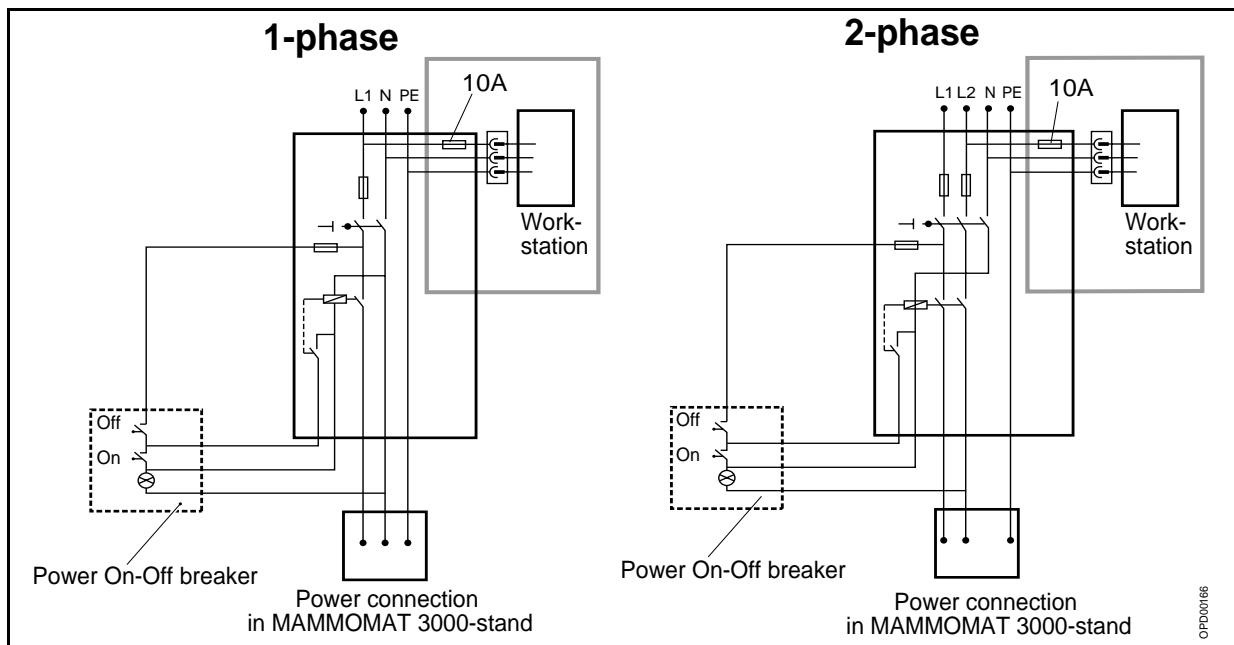


Fig. 14 Power distribution

13. If a voltage selector switch exists, ensure the line voltage selector switch is set to the appropriate setting: 115V or 230V.

CAUTION

Plugging a 115V power cord into a 230V connector will severely damage the system.

14. Connect the AC power cords of the main unit, the monitor, the MO unit, the local Opdima® printer (if present) and the MAMMOMAT printer (if present) to the wall socket marked with label.

It is advisable to use an extension cord with at least three outlets.

CAUTION

The workstation and the printer must be grounded to the same potential as the MAMMOMAT.

Connect the wall socket for the workstation and printer power supply to the same branch circuit as the MAMMOMAT power supply.

(The workstation table can be connected to any branch circuit.)

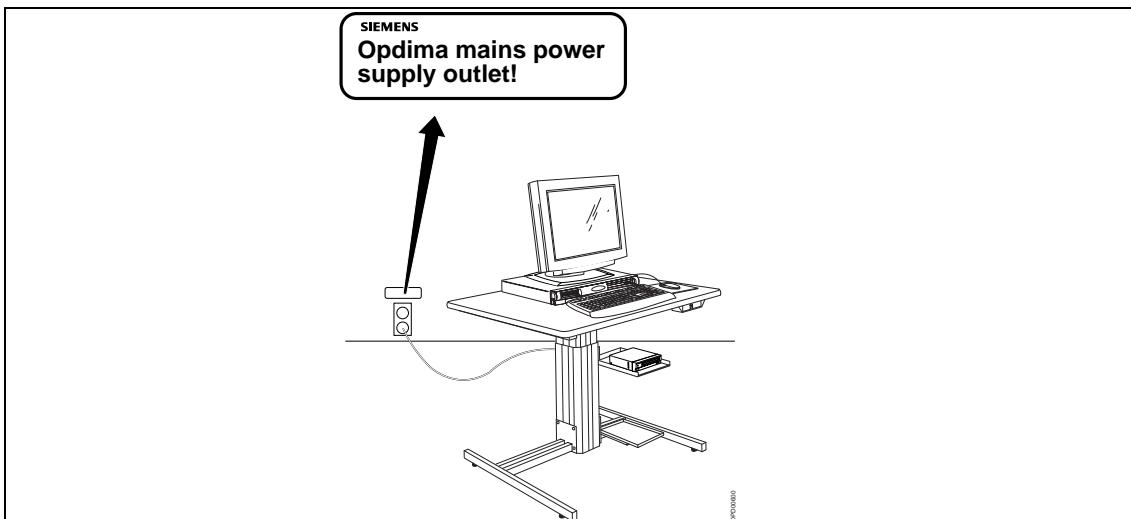


Fig. 15 Mains marking label

Front panel description

Position	Explanation
1	Power switch
2	Power-indicator LED
3	Smart card reader (not used in Opdima)
4	3.5-inch diskette drive (not used in Opdima)
5	5.25-inch CD drive

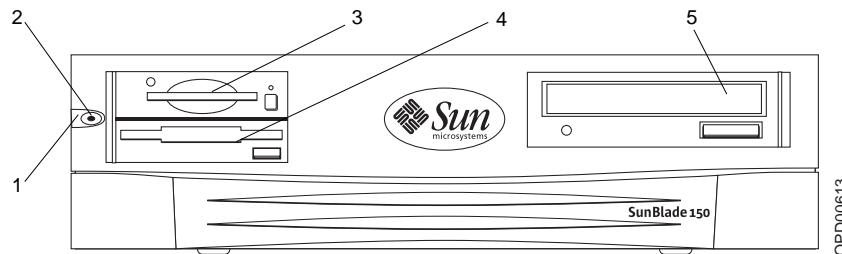


Fig. 16 Front panel overview

Back panel description and connector symbols

Position	Explanation	Connector symbols
1	Mains power supply	None
2A	Biopsy controller interface (X204)	PCI-3
2B	Camera interface via biopsy controller (X203)	PCI-2
2C	SCSI interface	PCI-1
3	Universal serial bus (USB) connectors (four) (keyboard and mouse interface)	
4	Network connector	
5	Not applicable (IEEE 1394 (two) connectors), not used	
6	Monitor interface	
7	Parallel port to local printer	//
8	Mammomat interface via biopsy controller (X204)	SERIAL
9	Audio module headphones connector, not used	
9	Audio module line-out connector, not used	
9	Audio module line-in connector, not used	
9	Audio module microphone connector, not used	

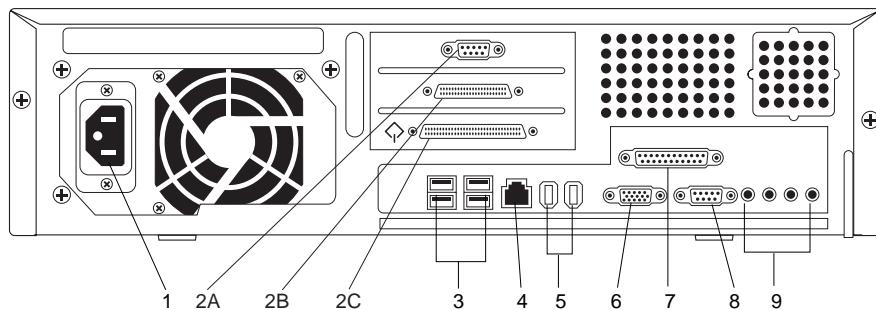
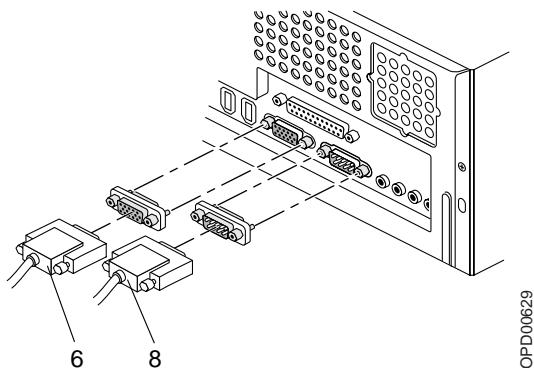


Fig. 17 Back panel overview



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Fig. 18 Port extenders to the back panel of the workstation

Strain relieving the cables

If the workstation table (option) is used with the Opdima system, the cables from the workstation components and from the MAMMOMAT must be strain relieved by cable clamps at the back of the MO unit shelf according to the figure below.

- To ensure that the cables have enough length for the vertical adjustment, let the workstation table be in its highest possible position when strain relieving the cables.
- Use cable ties to arrange the cables in an organized way and make sure that the cables can run without a risk of getting caught.

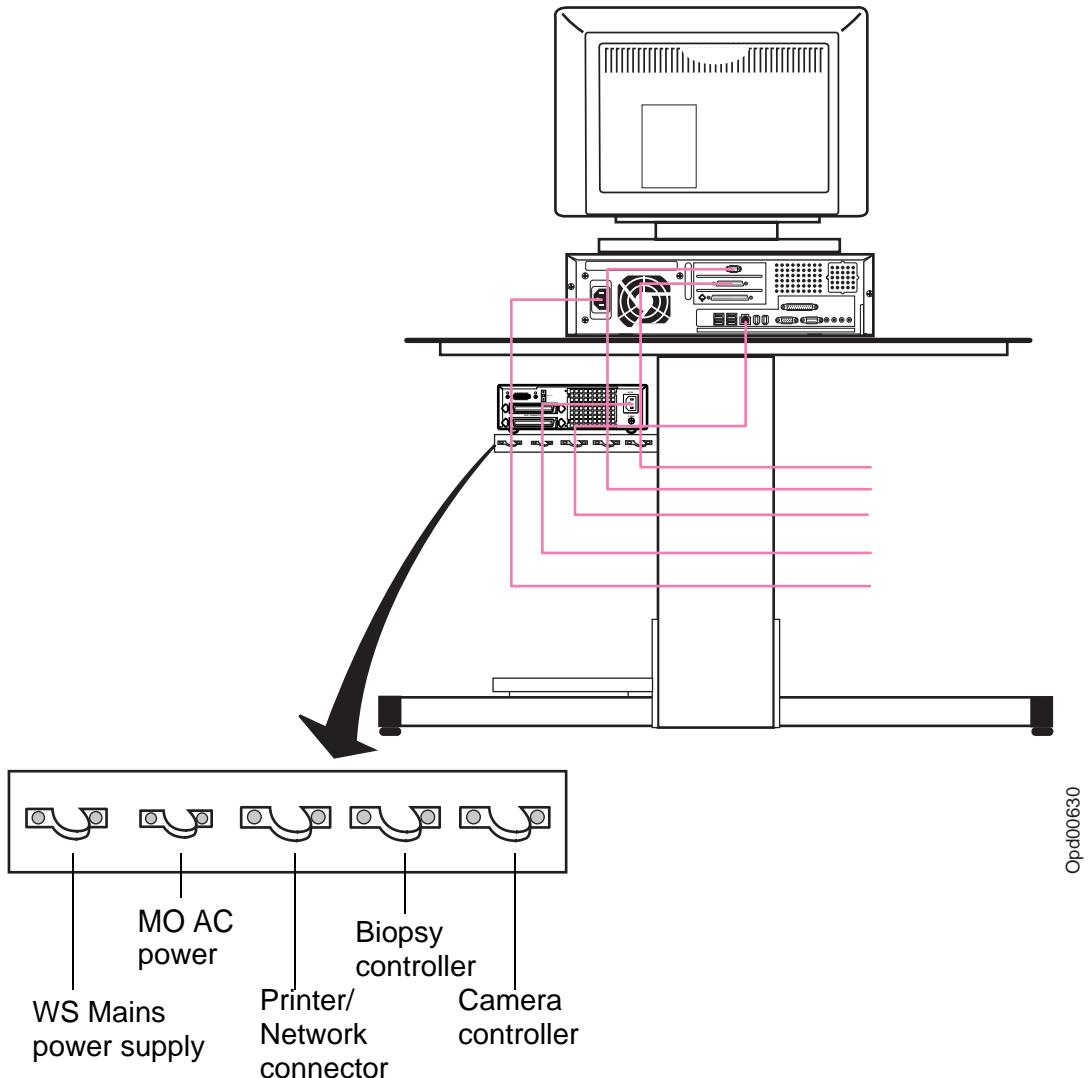


Fig. 19

Installation of input/output devices

Since the MAMMOMAT Novation DR and the Opdima® use monitors, keyboards and mouse, it was decided to install:

- one monitor
- one keyboard and
- one mouse.

There is a KVM switch delivered connecting these three input/output devices alternately either to the WH AWS of the MAMMOMAT Novation DR or to the SUN-Blade 150 computer workstation of the Opdima®.

If reprogramming of the KVM switch is necessary follow the description below.

2.18 KVM switch

Attach the Syngo Workstation to connector A and the Opdima Workstation to connector B on the back side of the KVM switch. Apply the "DR" label centred above LED signal A on the front of the switch. Apply the "Opdima" label centred above LED signal B on the front of the KVM switch.

2.19 KVM switch language setting

When using a PS/2 keyboard, the language code for the SUN keyboard will need to be assigned to the switch. This allows for correct key-mapping.

To set the language code on the switch, access the command line (by pressing <CTRL> <CTRL> - twice within one second). Having accessed the command line this way, type in "SUN=" and then the appropriate country code from the table below (i.e. with a UK keyboard type "SUN=2E" to set UK language code). Press Enter to save changes.

The language in the leftmost column shows the keyboard used. The top line shows the language that shall be set.

	French	German	Italic	Portuguese	Spanish	Swedish	UK	US
French	SUN=2 ²	SUN=é(SUN=é-	SUN=éç	SUN=éQ	SUN=éB	SUN=éE	SUN=é&
German	SUN'23	SUN'25	SUN'26	SUN'29	SUN'2A	SUN'2B	SUN'2E	SUN'21
Italic	SUNi23	SUNi25	SUN i26	SUNi29	SUNi2A	SUNi2B	SUNi2E	SUNi21
Portuguese	SUN<23	SUN<25	SUN<26	SUN<29	SUN<2A	SUN<2B	SUN<2E	SUN<21
Spanish	SUNj23	SUNj25	SUNj26	SUNj29	SUNj2A	SUNj2B	SUNj2E	SUNj21
Swedish	SUN'23	SUN'25	SUN'26	SUN'29	SUN'2A	SUN'2B	SUN'2E	SUN'21
UK	SUN=23	SUN=25	SUN=26	SUN=29	SUN=2A	SUN=2B	SUN=2E	SUN=21
US	SUN=23	SUN=25	SUN=26	SUN=29	SUN=2A	SUN=2B	SUN=2E	SUN=21

Table 1 SUN Layout Codes

Installation of monitor

Monitor type: Siemens TFT-LCD monitor 1897

Material required: Mains cable, Cable BNC to HD15 or 13W3(Sun).

Proceed as follows to install the monitor:

1. Unpack the monitor and place it on top of the workstation.
2. Connect the monitor to the workstation with the accompanying cables to the connectors on the backside of the monitor according to Fig. 20.

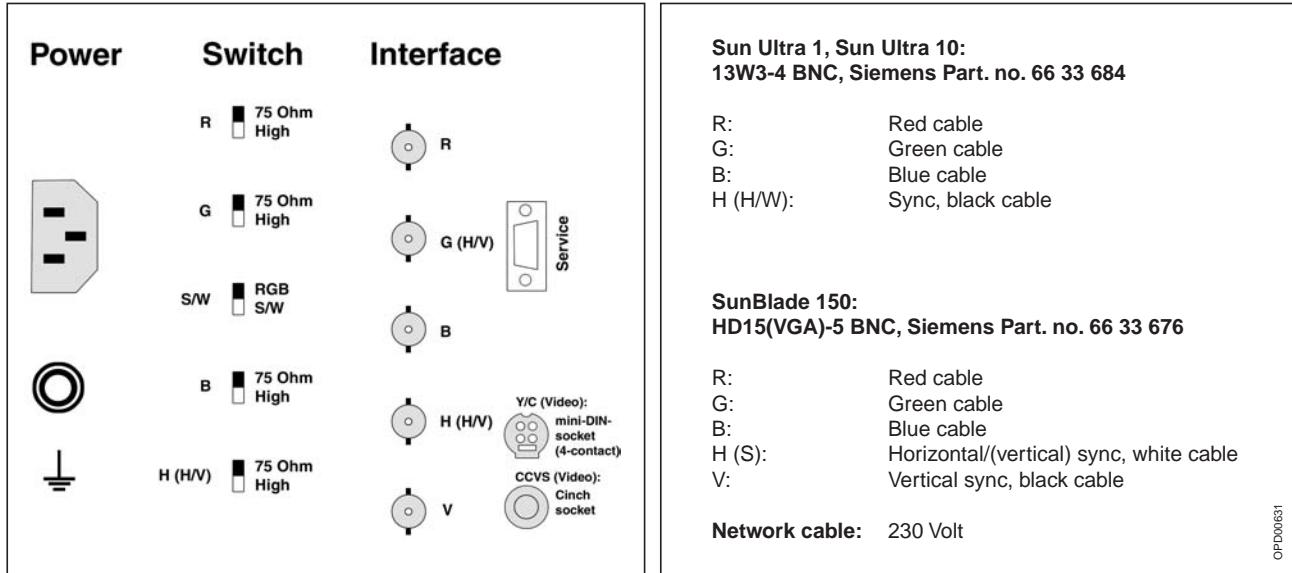


Fig. 20 Connectors between workstation and monitor

3. Start up the workstation and log in as service, select service and start Advanced service
3 Software Upgrade
6 Miscellaneous
5 Select Monitor
type: 67 Hz SunBlade 150.
Select Apply and close to close down the rest of the windows.
4. Log out and log in again as service.

Fine adjusting the monitor settings

Read the monitor manual "High-Resolution 18" LCD Monitor SCD 1898-0" (delivered with the monitor) and especially the chapter for OSD (On Screen Display).

Use the SMPTE test pattern image as reference when calibrating the image geometry of the monitor (see the Opdima Quality Control Manual on how to do so). To compensate for movement in the grid pattern, use frequency/phase under others (settings).

If the monitor is wrongly adjusted:

Make an autoadjust under the heading Auto.

Control that the monitor has the correct settings for vertical sync under the Others settings, see Fig. 21.

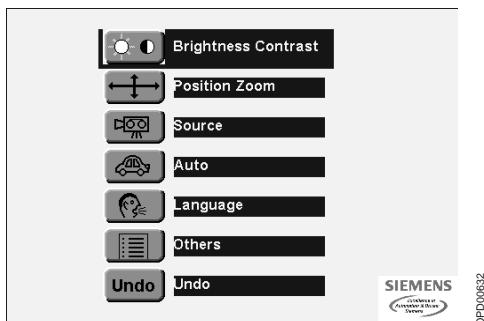


Fig. 21 Monitor settings

The settings shall be:

Brightness Contrast:

Brightness	50
Contrast	50
Backlight	70
Color	2

Position Zoom:

Fill all

Source:

Analog RGB

Auto:

Auto brightness:	off
Auto position zoom:	on
Auto frequency phase:	on
Auto all	off

Language:

English

Others:

select Frequency phase,

Frequency: 64*
Phase 160*

* Can be adjusted for optimal image reproduction, see the monitor manual "High-Resolution 18" LCD Monitor SCD 1898-0" (delivered with the monitor). Use the SMPTE test pattern image for fine adjustments of the image.

select Sharpness, 3

select Video/PIP settings, off

select PIP Source, auto

select OSD

Horizontal: Max
Vertical: Max
Background: Translucent
Timeout: 20 Sec.

Make a final evaluation of the monitor settings with the clinical image as reference. See Quality Control Manual.

Connecting the workstation to the network

The Opdima workstation can be connected to a network, partly for the use of DICOM and also for networked printers.

1. Connect one end of the network cable (included in the delivery) to the workstation.
2. Connect the other end of the network cable to a network socket.
3. Log in with the user name "service". The password is obtained from Siemens Service Centre.
4. Press the Service button in the mode selection dialog, see Selection of mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.
5. Press the Advanced service button in the service dialog, see Use of Advanced service functions in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.
6. In Advanced service configure the network parameters, see Network settings in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.

For physical limitations of the network see Mammomat 1000/3000/3000 Nova - Opdima® Planning Guide.

Installation of Opdima printer (option)

Stand alone Opdima system:

When the Opdima system is stand alone (not connected to a network) it is possible to install a Codonics NP-1660 or NP-1600 printer to Opdima® as a stand alone printer connected to the network connector.

NOTE

It is also possible to connect a stand alone postscript printer to the parallel or network connector of the workstation, see Use of printer setup in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.

The following equipment is needed:

- Codonics printer NP-1660 or NP-1600
- Crossover network cable

Proceed as follows to install the printer:

1. Connect one end of the network cable to the workstation (2C/Fig. 17).
2. Connect the other end of the network cable to the printer.
3. Connect the mains cable of the printer to the wall socket marked with label, see Fig. 15.

⚠ CAUTION

The printer must be grounded to the same potential as the MAMMOMAT.

Connect the printer power supply to the same branch circuit as the MAMMOMAT power supply.

4. Set the printer IP address to 10.10.10.2 see the User's Manual for the Codonics NP-1660 or NP-1600.
5. Select Scaled in printer setup in the advanced service dialog, see Stand alone Opdima system in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.

Networked Opdima system:

When the Opdima® system is networked it is possible to configure the system to print to a printer connected to the network or a local postscript printer connected to the parallel interface of the workstation.

NOTE

It is also possible to connect a stand alone postscript printer to the parallel connector of the workstation, see Select printer in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.

Proceed as follows to install the network printer:

1. Add access to the network printer in the advanced service dialog, see Networked Opdima system in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.
2. Select printer in the advanced service dialog, see Networked Opdima system in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions.

Functional test (workstation table)

Before the installed workstation table (option) is handed over to the customer, check that the workstation table can be vertically adjusted between the highest and lowest possible positions properly and safely.

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General

The following procedures shall be performed:

- Starting up the workstation, see Page 6 - 2
- Country settings,
see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Test of units,
see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Turn screen lock on/off, software upgrade, miscellaneous,
see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- CCD camera calibration,
see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Calibration of the biopsy unit,
see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Verifying the calibration of the biopsy unit,
see chapter Measures after service in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Check of Opdima® AEC,
see chapter Measures after service in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Check of resolution,
see chapter Measures after service in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Network settings,
see chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Activate DICOM (optional),
see DICOM option in chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Printer setup (optional),
see Use of printer setup in chapter Service mode in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Mounting of covers, see Page 6 - 3
- Protective earth measurement,
see chapter Measures after service in MAMMOMAT 1000/3000/3000 Nova - Opdima® Service Instructions
- Fill in the IVK list or report the IVK components to your responsible uptime service center (USC).

- Performing of DHHS maintenance, see Page 6 - 3

NOTICE

The Opdima® external diaphragm must be used for tests and calibrations involving radiation.

Starting up the MAMMOMAT

Switch on the MAMMOMAT.

Starting up the workstation and login

The workstation is started according to instructions in Starting up the workstation and login in Supplement to the Instructions for Use MAMMOMAT Novation^{DR}- Opdima®.

Use the user name “service” and the password obtained from Siemens service center when entering the system.

NOTE

Any adjustments of the monitor settings shall be performed by qualified personell who are employed by Siemens or one of its affiliates or who are otherwise autorized by Siemens or one of its affiliates to provide such services.

To obtain optimal picture, adjust the monitor settings as follow:

Brightness: 50

Contrast: 50

Backlight: 70

Starting up the MO unit

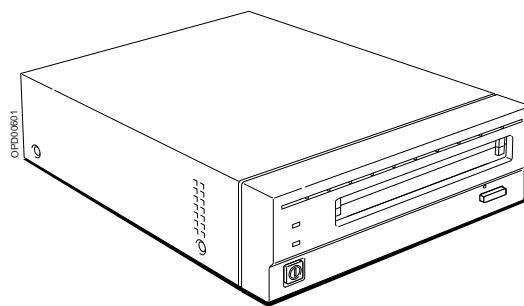


Fig. 1 Magneto-optical drive (SONY)

1. Insert the MO disk, type 9.1 GB MO disk
2. For switch settings and SCSI ID, see Paragraph “Installing the MO unit” in Chapter “Removal and replacement of sub-assemblies” in MAMMOMAT 1000/3000 Nova - Opdima® Service Instructions.

Installation of software on OPDIMA WORKSTATION

The software is installed in the factory before delivery. If the software for any reason needs to be reinstalled, refer to chapter “Reinstallation of software” in MAMMOMAT 1000/3000 Nova - Opdima® Service Instructions.

Mounting of covers

Mount the covers previously removed.

Filling in of IVK list

Fill in the IVK list or report the IVK components to your responsible uptime service center (USC).

Performing of DHHS maintenance

In the USA, perform maintenance according to DHHS Maintenance Instructions for MAMMOMAT 1000/ 3000 Nova incl. Stereotactic Biopsy Attachment and Opdima® and fill in DHHS Measurement Certificates for MAMMOMAT 1000/ 3000 Nova incl. Stereotactic Biopsy Attachment and Opdima®.

NOTE

The DHHS Maintenance Instructions and DHHS Measurement Certificates delivered with the Opdima® also includes the measurements to be performed on the MAMMOMAT. Therefore the DHHS Maintenance Instructions supplied with the MAMMOMAT can be removed. However, the DHHS Measurement Certificates supplied with the MAMMOMAT should be kept for future reference, if it contains previous measurement results.

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Chapter	Title	Changes to previous version
All		n.a., new version!

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